Tales of whales and herrings: comparing search functionality among web and subscription database searches

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- Director, WebSearch University (websearchu.com)
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Marydee Ojala

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- Adjunct faculty, IUPUI (Indiana University Purdue University Indianapolis)
Why I got interested in this

- Business research class for graduate students in library school
- Students were asked to find headquarters address for local company – searched Google instead of subscription databases (and this was after they had listened to a full lecture about finding company information on subscription databases)
Marsh Supermarkets Corporate Office | Headquarters
10679 North Michigan Road Zionsville, IN 46077
(317)598-3618

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Samsung Phone Systems www.ComxUnlimited.com
High Quality Samsung Phone Systems Easy To Use With Multiple Features!

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Become a Pharmacist 100% Online! Request Free Information Today.

Ask an Employment Lawyer JustAnswer.com/Law/Employ
A Lawyer Will Answer You Now! A Question is Answered Every 9 Sec.

Reviews For Marsh Supermarkets Corporate Office

Pat ★★★★★
Raced over a bit before 1pm to MARSH in Irvington on E. Washington on Nine/Eleven to pick up a fruit platter to take over
to the local Fire House for the 1pm national recognition of our First Responders. Randy, the Produce Manager, went out of
her way to expedite my fruit selection, make it very attractive, wrapped safely for movement, and got me out the door after
purchase so as not to be late. She was a gem. I trust her Store Manager and Corporate will acknowledge her in some
special way. She contributed very kindly to the 1pm experience for the Firefighters that day when the balls toled and the
cirens rang. Thank you, Randy. You are indeed special!

9/13/11
Why I got interested in this

- Research project: I searched Google and Bing. Bing put wiki (not wikipedia) in top 5 results. Google didn’t know this
- Head to head articles we did in ONLINE (predecessor magazine to Online Searcher) always concluded you needed to search both the web and subscription files
- EconLit search for medical topic
  - Articles on melanoma (truncated) since 2000
Why I got interested in this

- Information literacy symposium at IUPUI with keynote speaker William Badke
- Bill Badke writes the InfoLit column for Online Searcher
- Librarian frustration both with students and faculty
We buy subscription databases for our libraries
We teach sophisticated search strategies
We are adept at Boolean logic and field searching
We know the difference between bibliographic databases and directory databases
We search

- $$(((\text{whale}^* \ \text{OR} \ \text{cetacea}^*) \ \text{NEAR5} \ (\text{habitat} \ \text{OR} \ \text{“global warming”} \ \text{OR} \ \text{“climate change”} \ \text{OR} \ (\text{ocean} \ \text{NEAR 3} \ (\text{heat}^* \ \text{OR} \ \text{warm}^*))))) \ \text{NOT} \ \text{herring}) \ \text{AND} \ \text{date} \ \geq 2010$$
Non-information professionals search

- whales
Students

- Yes, they put one word in Google
- OK, if we’re lucky, they also go to Google Scholar
- Or, they put enough words into Google so that it pulls up a few articles from Scholar
- If they’ve been told to, they also try subscription databases
Whales - Google

Whale - Wikipedia, the free encyclopedia
Whale is the common name for various marine mammals of the order Cetacea. The term whale sometimes refers to all cetaceans, but more often it excludes ... Blue whale · Sperm whale · Killer whale · List of cetaceans

In the news

SeaWorld sued for its treatment of killer whales
Fox News - 2 hours ago
SeaWorld is being accused of abusing its killer whales, or orcas, while rearing in hundreds of ... Gray Whale Smacks Surfer Who Gets Too Close to Baby
NBC 7 San Diego - 20 hours ago
SeaWorld Lawsuit: "Shamu Show" Was a Sham That Masked "Ugly Truth" About Lives Of Whales At The Park
The Consumerist - 1 day ago

More news for whales

Whales - What is a Whale?- EnchantedLearning.com
www.enchantedlearning.com/subjects/whales/ Whale are large aquatic mammals that breathe air through blowhole(s) into lungs (unlike fish which breathe using gills). They live their entire lives in water.

Whales | Basic Facts About Whales | Defenders of Wildlife
www.defenders.org/whales/basic-facts Defenders of Wildlife
Learn about the size, population, habitat, and diet of these playful whales.
Whales – Google

Whale | Species | WWF
https://www.worldwildlife.org/species/whale
At the top of the food chain, whales are vital to the health of the marine environment but 7 out of the 13 great whale species are endangered or vulnerable. Learn ...

Whales - NOAA Fisheries
www.nmfs.noaa.gov/pr/.../whales.htm
National Marine Fisheries Service
Whales are the largest animals that ever lived on the Earth. They are even larger than the dinosaurs of prehistoric times. All whales belong to a group known as ...

Blue Whales - National Geographic
video.nationalgeographic.com/.../whale_blu...
National Geographic Society
Blue whales have complex calls that can be heard for miles. One scientist is on a mission to uncover the meanings of their songs.

You're Eye-to-Eye With a Whale in the Ocean—What ...
www.theatlantic.com/technology/.../whale.../274448
The Atlantic
There is almost nothing about a whale’s body that we can relate to. They breathe air like we do. They give birth to live young like we do. But the similarities seem to stop there.

Watching Whales Watching Us - NYTimes.com
www.nytimes.com/2003/07/12/.../12whales-i.html
New York Times
Editors’ Note: appended. On the afternoon of Sept. 26, 2002, a group of marine biologists vacationing on Isla San José, in Baja California Sur, Mexico, came upon a couple of whales ...

Opinion: SeaWorld vs. the Whale That Killed Its Trainer
news.nationalgeographic.com/.../130803-bla...
National Geographic Society
There have been dozens of attacks on trainers by orcas in marine parks around the world. Those are not bad whales; they just come with all the instincts of predators, says the author.
WDC, Whale and Dolphin Conservation
us.whales.org/
A world where every whale and dolphin is safe and free.

The Whale Museum | Friday Harbor, Washington
whalemuseum.org/
The Whale Museum: promoting stewardship of whales and the Salish Sea ecosystem through education & research. In the Pacific Northwest of the United States ...

Searches related to whales
- types of whales
- whales video
- whales country
- killer whales
- whales facts
- humpback whales
- blue whales
- sperm whales
Whales – Bing

Whale Facts and Information
www.whale-world.com
Whale Species. There are two types of whales: baleen and toothed whales. The largest species are the baleen whales like the blue whale. Read More »
Facts About Whales · Types of Whales · Whale Information · Humpback Whale

Whale - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Whale
And God Created Great Whales, written in 1970 by American composer Alan Hovhaness, is a work for orchestra and whale songs, including the recorded sounds of
Taxonomy · Evolution · Anatomy · Life history and … · Ecology · Species

Blue Whales, Blue Whale Pictures, Blue Whale Facts …
animals.nationalgeographic.com/animals/mammals/blue-whale
Learn all you wanted to know about blue whales with pictures, videos, photos, facts, and news from National Geographic.

Whales | Basic Facts About Whales | Defenders of Wildlife
www.defenders.org · … · Fact Sheets · Whales
Right whales like the North Atlantic right whale (Eubalaena glacialis) are among the rarest of all marine mammal species. These baleen whales have two separate …

Videos of whales
bing.com/videos

Kingdom of the Blue Whale
YouTube
Humpback Whale Shows AMAZING
YouTube
National Geographic Live!
YouTube
Amazing Blue Whale - The
YouTube

See more videos of whales

Whales - What is a Whale?- EnchantedLearning.com

Whale
Whale is the common name for various marine mammals of the order Cetacea. The term whale sometimes refers to all cetaceans, but more often it excludes dolphins and porpoises, which are smaller members of the suborder Odontoceti. The other cetacean suborder, Mysticeti, comprises filter feeders who eat small organisms caught by strain.…

Gestation period: 11-12 months (North Atlantic right whale)
Length: 13 - 15 ft (North Atlantic right whale, Calve) · 43 - 52 ft on average (North Atlantic right whale) · 49 - 60 ft (+
Weight: 3,086 lb (North Atlantic right whale, Calve) · 88,185 - 154,323 lb on average (North Atlantic right whale) · 110,231 - 176,370 lb (+
Consists of: North Atlantic right whale · North Pacific right whale · Southern right whale
Belongs to: Cetacea

Listen to animal sounds
Humpback Whale "Song" 0:37

People also search for
See all (10+)
Whales – Bing

See more videos of whales

Whales - What is a Whale? - EnchantedLearning.com
www.enchantedlearning.com/subjects/whales
Whales are large aquatic mammals that breathe air through blowhole(s) into lungs (unlike fish which breathe using gills). They live their entire lives in water.

Whale - WWF - Endangered Species Conservation | ...
www.worldwildlife.org/species
Whales roam throughout all of the world's oceans, communicating with complex and mysterious sounds. Their sheer size amazes us; the blue whale can reach lengths of...

Related searches for whales
Freddie Gray Whale  Big Pictures of Whales
Types of Whales  All Species of Whales
Pictures of Whales  Facts About Whales

Whales: The Kids' Times - Office of Protected Resources ...
www.nmfs.noaa.gov/pr/education/whales.htm
Whales: Whales are the largest animals that ever lived on the Earth. They are even larger than the dinosaurs of prehistoric times. All whales belong to a group known ...

[video] Video -- Blue Whales -- National Geographic
video.nationalgeographic.com/video/whale_bluecalls
Blue whales have complex calls that can be heard for miles. One scientist is on a mission to uncover the meanings of their songs.
Whales – Yandex
Whales – Google Scholar
Herring

Herring - Wikipedia, the free encyclopedia
Herring are forage fish, mostly belonging to the family Clupeidae. They often move in large schools around fishing banks and near the coast. The most abundant...

More results from wikipedia.org »

Herring as food
These oily fish also have a long history as an important food fish...

Atlantic herring
Atlantic herring (Clupea harengus) is a herring in the family...

Herring - Russ and Daughters
Herring, Pickled Herring-Cream&Onions. Add to Basket. 3 Pickled Herring-Plain&Onions. Add to Basket.

Red Herring — THE BUSINESS OF TECHNOLOGY
Red Herring provides an insider's access to the global innovation economy, featuring unparalleled insights on the emerging technologies driving the economy.

Herring Biology - What is a herring?
There are several species of fish in the herring family. Typically, herring are small, streamlined, schooling "planktivores," or plankton-eaters. The nearly 200 true...

NOAA - FishWatch: Atlantic Herring
Sep 26, 2014 - Atlantic herring is one of nearly 200 herring species in the family Clupeidae. Herring populations are naturally highly variable, possibly due to...

Herrings - NYS Dept. of Environmental Conservation
New York State Department of Environmental Conservation

Herring
Herring are forage fish, mostly belonging to the family Clupeidae. They often move in large schools around fishing banks and near the coast. Wikipedia

Nutrition Facts
Herring, Atlantic, raw

<table>
<thead>
<tr>
<th>Amount Per 1 fillet (184 g)</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories 291</td>
<td></td>
</tr>
<tr>
<td>Total Fat 17 g</td>
<td>26%</td>
</tr>
<tr>
<td>Saturated fat 3.8 g</td>
<td>19%</td>
</tr>
<tr>
<td>Polyunsaturated fat 3.9 g</td>
<td></td>
</tr>
<tr>
<td>Monounsaturated fat 7 g</td>
<td></td>
</tr>
<tr>
<td>Cholesterol 110 mg</td>
<td>36%</td>
</tr>
<tr>
<td>Sodium 166 mg</td>
<td>6%</td>
</tr>
<tr>
<td>Potassium 602 mg</td>
<td>17%</td>
</tr>
<tr>
<td>Total Carbohydrate 0 g</td>
<td>0%</td>
</tr>
<tr>
<td>Dietary fiber 0 g</td>
<td>0%</td>
</tr>
</tbody>
</table>
Herring – Bing

**Herring** - Wikipedia, the free encyclopedia
on.wikipedia.org/wiki/Herring

Herring are forage fish, mostly belonging to the family Clupeidae. They often move in large schools around fishing banks and near the coast. The most abundant and...

Species - Characteristics - Life cycle - Ecology - Fisheries - As food

**Herring as food** - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Herring_(food)

Herring are very high in the long-chain Omega-3 fatty acids EPA and DHA. They are a source of vitamin D. Water pollution influences the amount of herring that may be...

Nutrition and toxins - Preparation - Foods and dishes

Images of herring
bing.com/images

See more images of herring

**Herring** Biology - What is a herring?
www.gma.org/herring/biology/whatdefault.asp

There are several species of fish in the herring family. Typically, herring are small, streamlined, schooling "planktivores," or plankton-feeders.

**Herring** | Definition of herring by Merriam-Webster
www.merriam-webster.com/dictionary/herring

Full Definition of HERRING 1: either of two food fishes (genus Clupeus); also: one (C. harengus) that is abundant in the temperate and colder parts of the North ...

See results for

**Herring**

Herring are forage fish, mostly belonging to the family Clupeidae. They often move in large schools around fishing banks and near the coast. The most abundant...

**Pickled herring**

Pickled herring, also known as bismarck herring, is a delicacy in Europe, and has become a part of Baltic, Nordic, Dutch, German, Czech, Polish, Eastern Slavic, Scottish, and Jewish cuisine.

Related searches

Pickled Herring
Salt Herring
Wolf Herring
Where to Buy Pickled Herring
Herring Health Benefits
Herring Funeral Home
Herring Bird
Pickled Herring in Wine Sauce

Related images

Red Herring
Pickled Herring
Herring Gull
And then what happens?

- They don’t understand fields
- They don’t understand thesaurus terms
- They don’t know where to find thesaurus terms or why they should be interested in them
- They retrieve an abstract and feel cheated because there’s no full text
The challenge

- Moving students (maybe even faculty) from one word in Google to other search venues
- Bing, DuckDuckGo, other web search engines
- Resource rich websites
- Subscription services paid for by library
  - Justify cost
  - Illustrate usefulness
You might be an information professional if
◦ You actually enjoy the thrill of the chase
◦ You do research for fun
◦ You know advanced search techniques – and use them on a regular basis
◦ You think questions are as important as answers

But not everybody wants to be an information professional
◦ Finding more important than searching
◦ Answers more important than question
Many different reasons to search

- Consumers
  - Target market for Google, Bing, etc.

- Students
  - Just enough info to write the paper, complete the assignment

- Faculty
  - Scholarly publishing

- Business people
  - Data-driven, Decision making
Why they search

- Determines where they search
  - And how they search
- Determines involvement of information professional
- May not align with search engine mission statements
In academia

- **Students**
  - Undergraduate needs versus graduate students
  - Don’t understand research process

- **Faculty**
  - Research concerns are changing
  - Where to publish
  - Data mining

- **Licensing negotiations**
In corporate world

- Information professional must be adept at searching subscription databases
- Expect to be out–guessed by executives using Google
- Expand role of information professional
Types of searches

- Known item
  - I need to find this book or this journal article
  - I need a fact
  - Company name

- Citation
  - Who cited this article

- Open-ended research project
  - I’m writing a paper on .......
  - What research has been done on .......
Known items

- Book – Amazon or WorldCat or library catalog?
- Journal article – database or discovery service?
- Fact – multiple sources
Known items

- **Company name**
  - If unambiguous, your results are perfect
    - Subaru
  - If ambiguous, your results can be suspect
    - Search Technologies
    - Is it company name or concept?
    - Results influenced by search history? By SEO?

- **Auto suggest and auto complete can help**
Science citation index started this over 50 years ago

Different citation counts between Web of Science and Google Scholar
  ◦ This is well documented
  ◦ Also documented that Scholar citations may be wrong

But Scholar is getting better
Open-Ended Research Project

- Structured data versus unstructured data
- Terminology
  - Disambiguation
  - Confusion about thesaurus terms
    - Somewhat unnatural to normal people
    - And sometimes to info pros
- Human-generated thesauri terms versus algorithmically-generated terms
Comparing search results

- Difficult task if you don’t know intent of search
Tactics

- Redirection
- Yes and (instead of yes but)
- Pontificating and preaching don’t work
- Let me amplify your knowledge (instead of I’m smarter than you are and a better searcher)
- Avoid the phrase “information literacy”
Auto suggest

- whales
- whales in hawaii
- whaleshead beach resort
- whales of august
- whales of cash slot machine free download
- whales tail destin florida
- whales facts
- whales pictures
Common mistakes

- Spellllllling
- Language
  - Wood or lumber or les or harampádí
- Thesaurus terms versus natural language
  - "Refuse collection vehicle" = garbage truck
  - "Animals, fossils" = fossils
- Misunderstanding fields
  - "Author" entered in author field
- Misunderstanding databases
  - Search for modern literature in EEBO
Machine learning

- Web search engines learn from search behaviors
- Marketing companies learn from search behaviors
- Voice search versus typing
  - Swollen ankle
  - Why is my ankle swollen
- Traditional databases take different approach to vocabulary
  - But do pay attention to user interface
Future

- Web search engines are going to get better
- Less incentive for students to search bibliographic databases
- More pressure on librarians
- Hard to convince students, faculty, businesspeople to give up dependence on Google
Contact details

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